

IN THE CLAIMS

Please cancel claims 3, 4, 9, 10, 13, and 14.

Please amend claims 1, 7 and 12 as shown below in the listing of claims:

1. (Currently Amended) A laser module, comprising an external cavity including:
a semiconductor optical amplifier device having first and second end surfaces;
a grating fiber having an end and a diffraction grating; and
a lens for optically coupling the first end surface and the end together, wherein
an optical cavity length of the external cavity is in a range of 13 millimeters or more but
27 millimeters or less,

the diffraction grating of the grating fiber has a reflection spectrum, and
a full width at half maximum of the reflection spectrum is 0.4 nanometers or less,
whereby multimode oscillation of the laser module in excess of two modes is suppressed.

2. (Original) The laser module according to claim 1,
wherein the end of the grating fiber is a lens-shaped end portion.

- 3.-4. (Canceled)

5. (Original) The laser module according to claim 1, further comprising:
a mounting component which mounts the semiconductor optical amplifier device;
a lens holding member which is supported by the mounting component and holds the
lens;
a ferrule which holds the grating fiber; and

a ferrule holding member which holds the ferrule and is supported by the mounting component,

wherein the grating fiber has a first portion provided with the diffraction grating, and a second portion of a pigtail shape.

6. (Original) The laser module according to claim 1, further comprising:
a mounting component which mounts the semiconductor optical amplifier device;
a lens holding member which is supported by the mounting component and holds the lens;
a ferrule which holds a fiber stub provided with the diffraction grating; and
a ferrule holding member which holds the ferrule and is supported by the mounting component.

7. (Currently Amended) A laser module comprising;
a semiconductor optical amplifier device having first and second end surfaces;
a grating fiber having an end and a diffraction grating; and
a component-mounted member for configuring an external cavity by optically coupling the semiconductor optical amplifier device and the grating fiber together, wherein
the component-mounted member includes an abutting surface on which the end of the grating fiber is abutted,
the component-mounted member mounts the semiconductor optical amplifier device, and
an optical cavity length of the external cavity is in a range of 13 millimeters or more but 27 millimeters or less,
the diffraction grating of the grating fiber has a reflection spectrum, and

a full width at half maximum of the reflection spectrum is 0.4 nanometers or less,
whereby multimode oscillation of the laser module in excess of two modes is suppressed.

8. (Original) The laser module according to claim 7,
wherein the end of the grating fiber is a lens-shaped end portion.

9.-10. (Canceled)

11. (Original) The laser module according to claim 7,
wherein the component-mounted member includes a first region and a second region
which are provided along a predetermined axis,
the semiconductor optical amplifier device is mounted in the first region of the
component-mounted member,
the grating fiber is mounted in the second region of the component-mounted member, and
the second region of the component-mounted member includes first and second
supporting surfaces which support side surfaces of the grating fiber.

12. (Currently Amended) A laser module, comprising an external cavity including:
a semiconductor optical amplifier device having first and second end surfaces; and
a planar optical waveguide having an end and a diffraction grating, wherein
an optical cavity length of the external cavity is in a range of 13 millimeters or more but
27 millimeters or less,

the diffraction grating of the grating fiber has a reflection spectrum, and
a full width at half maximum of the reflection spectrum is 0.4 nanometers or less,
whereby multimode oscillation of the laser module in excess of two modes is suppressed.

13.-14. (Cancelled)

15. (New) The laser module according to claim 1, further comprising a lead terminal through which the semiconductor optical amplifier device receives a transmission signal.

16. (New) The laser module according to claim 7, further comprising a lead terminal through which the semiconductor optical amplifier device receives a transmission signal.